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July 20, 2005

## By Courier and E-File

Mary L. Cottrell, Secretary Department of Telecommunications and Energy One South Station, 2<sup>nd</sup> floor Boston, MA 02202

Re: Bay State Gas Company, D.T.E. 05-27

Dear Ms. Cottrell:

Enclosed please find Bay State Gas Company's Response to RR-AG-20 for filing.

Very truly yours,

Mut (. Jewes Jr. Robert L. Dewees, Jr.

RLD/tlm Enclosure

cc: Caroline O'Brien Bulger, Esq., Hearing Officer (CD enclosed)

A. John Sullivan, DTE (7 copies)

Andreas Thanos, Assistant Director, Gas Division

Alexander J. Cochis, Assistant Attorney General (4 copies)

Paul R. Osborne, Assistant Director, Rates and Revenue Requirements Division

Service List

# COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

# RESPONSE OF BAY STATE GAS COMPANY TO RECORD REQUESTS FROM THE ATTORNEY GENERAL D.T.E. 05-27

Date: July 19, 2005

Responsible: Danny G. Cote, General Manager

RR-AG-20: Provide a transcribed copy of Mr. Anderson's (Rudden) meeting notes of

August 5, 2004. (See AG-14-19(a)).

Response: Attached as Attachment RR-AG-20(a) is a transcribed copy of Mr. Anderson's

(Rudden) meeting notes of August 5, 2004 and subsequent notes. (See AG-14-

19(a)).

In the process of transcribing Ed Anderson's notes, it was determined that Michael Mount of Rudden also took notes of the August 5, 2004 meeting and subsequent meetings. Attached are his handwritten (Attachment 20(b)) and

transcribed (Attachment 20(c)) notes of those meetings.

D.T.E. 05-27 RR-AG-20 Attachment 20(a)

Page 1 of 24

The following is a transcribed copy of Anderson's (Rudden) meeting notes.

Page 1

8/5/04 10am call when leaving

Kick-off meeting @ BSG in Westborough, MA office

Rich Rudden (RR)

Mike Mount (MM)

Bob Obrien (BO)

Dan Cote? GM (DC)

Steve Bryant? Pres (SB)

Patricia French? Legal NS (Trish)

Tom Birmingham- Managing the rate case (TB)

Doug Casey? 17 years (Doug)

Rob Dewees- legal (RD)

Keith Dalton mgr engineering & construction (KD)

John Nerdon? en? works for Keith (JN)

SB- its' been 13 years

-most important issue- Brockton infrastructure- mains & service signs need to be replaced @ condition

- Increasing inc leaks
- not looking to break new ground
- starting early @ too much preparation
- collaborative effort- team
- plan to spend more in 2004 05

DC- bare steel (BS) & CI (cast iron)

Focus on BS 1st

Operating differences

different wall thick

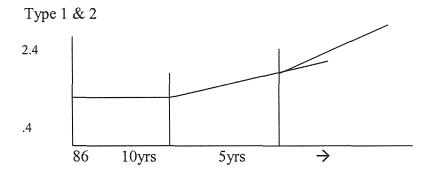
Corrosion effects

SB- What if we increase spending to \$20mil/yr

Page 2

DC- Sees mains deteriorating linearly from his data

Page 2 of 24



In 18 yrs change factor x

To do Ed – Compare to other utilities use DOT data (- test - do 02 1st or 03 if avail)

SB- We're telling the Dept we want to do something about these pipes

DC- They are replacing worst mains  $1^{st}$ . New pipe  $\sim$  \$50/ft compared to maybe \$5 original.

## Page 3

SB – general = BS is a USA infrastructure issue @ Post WWII expansions.

- These assets will be immediately used & useful.
- DC has met wit Acting Dir. of pipe safety at DTE

DC- wants to make sure leaks are being managed and enough staff & crews

More leaks = more risk

BSG looks for minimum year end leaks last years had 100 left higher than normal.
Felt strain in staff. (need back staff-extra staff)

If leaks increase would need to hire more staff more contractors.

Want to get aggressive with replacement. mains, worst 1st.

Leaks will continue to increase for few years till mains retire / replace show impact

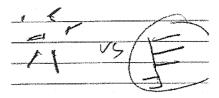
## Page 4

DC- Today's model of worst 1<sup>st</sup> is not as efficient as planning further ahead to replace larger areas - towns- more crews

Page 3 of 24

In+

Better cost per Coordination



Better bang for \$

DC- Muni's (towns) can't impose it's own standard or costs for utility, const that are not related to utility costs

BSG meeting w/towns & state (improve relationships win-win if possible)

SB- need to increase rate base to cover these costs

DC- has shared data w/ safety staff

Page 5

DC- Discussion about Fed Transmission effort
Dist efforts future

DC- concerned the leak curve will rise exponentially

Compare to MA Co's (companies) & others

DC-BSG leak survey every year

DC- 4 types of mains in their system

CI BS CPWS

Risk mains 80-45 yrs?

Should have no leaks

Plastic

BSG 34% BS & CI 15% 18

CI at most risk due to physical movement especially small diameter

Look at National BS data Leak/mile

They think Brockton 1<sup>st</sup>

Page 4 of 24

## Springfield Lawrence

# Page 6

DC- discussion about discussion w/ Dept Agree- with urgency-need

N Hampshire regulatory precedent?

ME small diameter CI over 10 yrs?

Lets benchmark to other Co's National Regional

Show #'s - be prepared

MA audits routinely field & BSG procedures - generally good

DC-Brockton 100#!

Not normally needed but load growth makes necessary to increase

## Page 7

pressure when cold-

Then drop pressure down to min leaks

DC- need to show others the comparison data to other Co's-

DC- Kansas P&C large service replacement program yrs ago 10?

Dept will be complete Maybe their own experts or outside

CI/yr? BS/yr L/m L/service File sizes complete data? # Co's?

MA Region Others

Use DOT data

Page 5 of 24

# Select Co's for comparison

Need criteria Multiple yrs

Big Little Muni

## Page 8

Discussion about Dept field inspectors

W/crews #days/wk?

- 4?

Very familiar w/BSG wk

Always checking

BSG SOP (standard operating procedure) Book? - get it

Leak survey program – described Verify have it

DC- after merger BSG SOP (standard operating procedures) book in place & updated each yr

Get copy

SB- Dan C is the main contact on pipe issue

DC- call me

SB- lets make our deadlines

keep on schedule

TB – discussed sharing info and data He will follow-up

# Page 9

SB – We think we started early enough on preparing case

Trish – earlier than later

SB – Early Nov – late Oct

TB-

Page 6 of 24

1. Rate case starts wk 9-1 outline due

2. SB presentation to RMC/board? 10-15

3. Testimony written

2-1

SB - earlier?

RR- We'll prepare our outline – what is needed to do by all of us Sept 1

DC- want to see if our analysis comes to same conclusion - validation - sanity check

RR- we need

initial work Physical case Business case

Benchmark→

## Page 10

Benchmark costs? No data avail

Joe T can help with data-

DC- they are tracking capital spending

Staying on top of it Getting sign offs-

Field data – corrections

Q/C (quality control)

Make successful

Make sure used in 05

SB- discussed KS order

Think about options for BSG

DC- do we have to show other Co's in comparison? - no

## Page 11

TB- Hired former Dir Engineering Paul LaSoto? to help compile & support cap projects

Break

DC/KD

MA code survey 2 yr Federal survey 5 yr

Page 7 of 24

BSG 1yr
DC- safety, reliability
So want to get on top of this now

End of KO meeting -

Keith – John Process

## Page 12

8/6

RR – Debrief with Rudden team Good meeting Joe T – on team Maggie admin also

8/9

Joe T
Discussion about filter of DOT data
Discussed different ideas
50 miles
50000 services
No BS or CI → out
Noted label on files missing in 96 95 94 93
Call DOT

8/9

Called OPS (Office of Pipeline Safety)
Jeff Tansel? 202-366-8075
Dave Gibson 202-266-0389 - due by 8/15

## <u>Page 13</u>

8/10

OPS called back
They will fix column heading 8/15
93 also missing
97 = 1 extra column had to fix

Page 8 of 24

98 ok Do compare -

8/10

Joe T – Filters

50 mi

1 mi

no BS

# Services

Others

50 captures most

8/10

Starting data review

8/18

Doug - progress discussion - regional states

8/18

Doug - left v-mail

Page 14

8/24

Doug - with Mike

Activities based budget.xls \$54/ft?

Brockton – other areas

Looking at % BS main – leak review

%BS + UPCS

Brockton data – Brockton

Springfield

Lawrence

We'll need to also speak with others about budget \$ unit costs, etc.

Doug - will identify who can help

8/25

Joe T -

full data base = 1291 Co's - 2003 States keep - CT NY MA NJ RI NH ME VT

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Some missing data -Nat Fuel, Valley, KS NH, Fall River

\$8= new? Low (w/o digging?) \$54 – replacement

Q – other leaks rely mostly joint clamp leaks?

Yes

#### Page 15

8/27

Doug – budget Questions – other data update

8/27

MM – business case discussion – O&M prediction as mains are replaced

8/30

BSG-

MM spoke w/Ed O

8/30

BSG budget talk

Colin Nesbit (CN)– budget manager – (discuss more unit cost background) Doug, MM Discussed Activity Based budget Brockton Distribution June 04

looking for historical data so we can forecast under different scenarios Activity Based Budget – costs/units

Based on combo – historical and known changes – prepared by managers for Brockton, Springfield Lawrence Guidelines – assemble to best info available

CN – "it's a best estimate."

CN – variability of capital can be extreme – such as

#### Page 16

Page 10 of 24

Inserts, inexpensive vs. direct bury – we use avg's (averages)— with overall budget

CN – 3 division / areas can be different because of different conditions # jobs in location

Brockton more Bare steel

Springfield more CI

Who does work?

Brockton – union leak locate Springfield + Lawrence outside leak locate

CN details of pipe in individual jobs – details

## CN updates

Mains – monthly updates

- current and future work estimate act by project
- year end change estimate vs. actual all jobs / yr
- new budget 6 mo earlier
- Construction April
- Budget Aug?

Builder digs \$8 / foot – type job

CN – not loaded costs

Doug-CN if there is more work that must be done, greater than Budget Then-go to corporate to help manage the \$\\$issue

#### Page 17

CN – update forecast every 3 mo for capital planning

Doug – provide by div O&M, CAP variance report

> Volume – bar hole 150 = dry hole Investigate 1200 = repaired

Loadings -

CAP - ok O&M - need more info

CN - 1 yr forecast for unit costs

## Discussed feet/year or \$/yr

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8/31

MM – follow up

8/31

**BSG** 

MM, Dan, Doug, Keith

Every HP leak = greater risk - especially in winter

Explained 50' criteria

DC- outside force – CI breaks

yes

Other mostly JC (joint clamp)

Brockton – 100# most areas are 60#

Data is what it is - can't be business as usual

CI-

MA – mandatory CI program CI leaks level - relatively

Page 18

How many Co's in comparison?

1291 – too many

Too much noise

About  $\sim 70 + > 50$  miles

In region  $\sim 20$ 

CT MA ME NY NJ NH RI VT

Discussed other ideas of data available

Not in DOT database

2002 warmest winter in 102 years – (drop in # leaks)

and kept pressure down - 65#

Focus on Brockton – its their problem area with leaks – work order system tracks –

a tool

Leaks by town

RR What O&M offsets about replacements \$ OM down when? \$ capital up immediately

Page 12 of 24

DC – use own \$ smartly – less 1000' segments and more 5 miles

- corrosion ranking of towns

Age, miles, pressure, size, # leaks

cheaper and faster

Leak data by pipe size? Not certain

Page 19

8/31

DOT OPS Dave

Data 2003 – missing Co's 93-96 headings he will call me back ???

8/31

AGA

John Ranfone

George Mosinskis – 202-824-7341 from SoCal Andrew Lu – 202-824-7342 Left v-mail with George

9/1

Doug

agreed to use 2003 data with missing Co's We'll try to get missing data

9/1

Keith D, Doug
Capital construction side
90% of wk with contractors for capital
CI + BS – 98% of volume
Work identified in Jan or after winter
Leaks on maps reviewed by OPS + corrosion

<u>Page 20</u>

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management staff looking for patterns + areas Also review WO system output for patterns + areas Judgment of BSG management vs. a X# leaks/mile rule

Capital \$ with contractors – locked in price OCM – OP center mgr Bill St Cyr – speak with him

9/3

BSG
Bill St Cyr, Wayne, MM
Unit cost of O&M discussion
Process for unit cost development
2 inputs
a good amount driven by codes

1) leak survey – state and fed 50% annually mains – BSG exceeds codes state & fed 33% annually services + follow code outside contractors

winter 100 80-100# summer 55#

actual BSG practice 100% annually plus other surveys e.g. Frost, CI winter time flame I on BS mains more leaks found when pressure is increased

#### Page 21

2) corrosion CP (cathodically protected) Steel
Surveys mains 3 year pipe to soil potentials
Services 10 year – outside contractors

Contractor bids = unit costs for surveys (daily rates, known history of miles/day etc)

BSG supervisors visit crews – not 100%

Leak investigation – customer call or found by survey

- BSG or contractor investigates
- No leak = investigate with no leak repair
- If leak = repair costs
- leak volumes are historical plus some judgments

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- look at historical labor hours and rates, materials used

- purchased costs
- use judgment look for reasonableness
- police cost included survey to RMS?

DOT service leak # includes leaks on meters (not unusual)

Retirements – when activity is completed to capital account

transferred from O&M & close out

map updates -100% Co. labor Use year end numbers

## Page 22

Fit (leaks) = threads on meter valve – simple thread repair or BSG service replaced

9/7

Steve V I think with Tom Morgon SAV retired going for Ph.D.

9/7

Kansas PSC Phil Sanchez 785-271-3713 Utilities div Docket 176 716-U 176-768-U

9/7

MM

Prepare needed now more than in past Status quo is not acceptable We can't flick a switch and replace the main – it will take time & \$

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## <u>Page 23</u>

9/9

MM & Bob O
Safe and reliable
Discussed full vs. partial —
need to go for full replacement of BS
services go with mains

9/10

Doug
C1 = flat ~ leaks
likely not to need a tracker
open leaks = pending leaks
Ed Collins? Does DOT report compile data

9/14

MM
Data collection review
Show 2003 all Co's data vs. BSG
Help tell the story data shows

Also plot by division to show differences

Page 24

9/21

DOT data with Joe T Fixed 93, 4, 5, 6 column headings 2003 still missing some companies available backlog leaks & backlog leaks/leaks repaired vs. others Used by NYS PSC

9/24

Doug

Q – how BS + UPCS replaced services STD (standard) practices - BGS & industry Switch overs to new main – plastic Retirements of main

9/29

Page 16 of 24

Doug – v/mail missed–

9/29

Doug

UPCS (unprotected coated steel) is treated as BS not economically feasible to replace

Page 25

Keith, Doug 3:30 -

(Keith good source)

UPLS – BSG determined that the balance are not viable for CP

Below 60's coating STDs

Felt wrap, paint, coal tar, spiral wrap

Asked for more info

To DC (Doug)

BSG review of pre '71 UPCS not ok for CP analysis or report

10/1

at BSG in MA Steve, Danny, Doug, MM, Tom, Bob O

DC -- CI installed in Springfield later
newer pipes in Springfield + lower pressures
Need to advise Dept. on the issue to paint a clear picture of the issue we face
As replacements are taking place, we will change
if replacements are needed in another Division

Start in Brockton then Lawrence and Springfield and target other areas that have characteristic of higher leak numbers as Brockton

## Page 26

DC - UPCS very mature

- Large volume CP'd (cathodically protected) over years / review done years ago
- They effectively culled out and not more to be gained
- Maybe a small amount could be CP'd but doubt it based on his knowledge vs. replace

Page 17 of 24

(More effort to replace at this point)

- When BS and UPCS is replaced, services will be automatically replaced STD practice
- Forecasting pipe condition 2 drivers on replacements muni CSC (city state construction) may not be a bad segment (happens often enough)

-Hard to project O&M savings Not right away

We don't want to flatten the curve – we want to drive it down

## <u>Page 27</u>

End yr leak BL (backlog) important measure
Discussed ratio year end backlog/leak repaired without 3<sup>rd</sup> party
as a levelizer
Used elsewhere – NYS PSC

Discussed having a leak expert review findings Heath is a recognized leader in leak detection and investigation Doug – will get us a contact

SB - Discussed review of capital projects by management and post project review – improvements

Paul LaSoto? For BSG doing review of past projects & docs work orders, Blue sheets pre estimate, actual costs, approvals

DC – in past reviews of projects took place reported by exception vs. every one

MM – financial model

O&M unitized current x (times) increase in leak rate

new pipes = no leaks

BS fully depreciated

## <u>Page 28</u>

Plastic 55 yr life

DC – 8" largest plastic diameter Greater than 8" = steel

DC - their bidding large projects lower \$ than average annual bids

Page 18 of 24

DC – BSG budgets for direct costs

DC - 2005 maybe will be \$20 mil capital and its not in the case

SB - new program = Brockton

Next steps

Follow up w/Doug - any other data

10/14

Doug – update, discussion

Page 29

10/18

Doug & Keith -

discussed variation in Brockton system pressure during days when cold to keep system up

Objective to keep pressure at min while maintaining adequate pressure (growth driver)

10/19

Heath Consultants - Lomax 800-432-8487 570-368-8583 cell Discussed support

10/20

610-639-3474
Paul Wehnert (Heath) <u>pwehnert@heathus.com</u>
713-844-1391

10/22

Jack Stillwagon – Heath
Cell 412-977-0206 on road a lot
Discussed need –
asked for cost estimate – reviewed his background –
very strong in leak investigation and corrosion control

Page 30

10/25

Page 19 of 24

```
(discussion with) Heath
$125/hr
regular consult agreement
confidentiality agreement
contract
then we'll tell Heath it is BSG
```

10/25

Danny, Doug, MM

UPCS vs. CP (unprotected coated steel vs. cathodically protected coated steel) (CI is not without risk but in our proposed program. Risk is not escalating based on leak data)

DC – explained that the Co followed DOT 192

BSG identified what could be protected 3x5 cards on each segment of steel BSG engineers best knowledge and judgment, they made determination Protected 100's of miles of pre '71 pipe

Data 100's segment cards that say – cannot be protected Dan will document process

MA audits it every year – no documentation of positive results

## Page 31

Safety section of Dept. does reviews – familiar

DC- ok to have Heath -- that would have operating experience otherwise no

DC- MA code every 2 yrs leak survey – they do it every year

To do – check codes

10/26

Called heath – Jack – onboard I'll send paperwork

1. confidentially 1<sup>st</sup>

2. then client name

3. if no conflict – ok to work

Page 20 of 24

11/2

Heath – Ken Cowher? 724 872-3007 Got papers – will send back

11/3

MM

Reviewed Heath assignment Review our comparison of DOT leak data for reasonableness, assumptions & results

## Page 32

11/8

Sent Doug year end backlog review
Left him v-mail with question – why increase in 2003 to 101? (from 20)
2004? Estimate

11/9

## Doug

Says Danny and Keith say

- increase in corrosion leaks
- manpower constraints
- thinks  $2004 \sim 50$  in backlog
- Co (workforce) stressed by extra leaks

11/9

Rudden team discussion Any other data – WO

11/17

Steve, Doug, Tom, MM Analysis update – using DOT data Discussed how Co collects data or work activity in WO system

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## Page 33

Accounting system collects costs (Asset Mgmt System)
AMS DOT
DOT is in WOMS (Work order management system)

11/19

Rudden team discussion BSG vs. regional Co's

11/23

Joe T Discussing spreadsheet questions

11/24

reviewing with Joe T leak model how to compare

11/24

MM feedback on data

11/29

Doug, Tom, MM Update on data review

12/3

Rudden team talk about data review

Page 34

12/6

Doug

Discussion about separation BS from UPCS in Co systems (don't)

Can report be done by holidays - draft-

12/6

Page 22 of 24

MM from Doug & Tom For compare BS focus BS miles

12/10

Jack S

Think UPCS will show greater rate of corrosion vs. BS

Coating ineffective

Shorted to other buried structures

Coated pipe has less exposed area so higher leak rate

His experience = more leak/mile on UPCS vs. BS

So we are conservative

At best UPCS could be equal to BS leak rate, normally worse

Conservative when we assume BS & UPCS corrodes equally because we don't have separate data

## <u>Page 35</u>

If coating is ineffective = BS or the more it is ineffective, the more = BS

Update MM

12/16

Doug, Tom Update

12/17

Doug, Dan, Tom

Stay focused on Brockton Compare it to other Co's, it is where our issue is

Comparison data will help illustrate need to increase replacements

Financial model should have options - ranges

12/20

Jack

Discussed draft / follow up tomorrow

Page 23 of 24

12/21

Jack continued Brockton

<u>Page 36</u>

HP footnote – help reader understand better
HP = greater volume gas escaping vs. LP
Does not make leaks – heath & Jack believe pipe does not know HP vs. LP at this pressure, no difference

HP equals increased volume equals leak detected earlier than LP

1/3

Jack brief

1/18

internal discussions

1/20

CC (conference call) with Doug, Tom, Steve, MM, Marie Feedback and BSG update on data – DOT

1/26

CC with BSG update DC, TB, SB, Doug Confirm Brockton DOT good

Page 37

1/31

Update with BSG (Doug)

2/1

Doug, Dan, Tom, Steve

# leaks are increasing year end back log was steady

year end backlog/ leak repaired was steady reduction in inventory – mains

Page 24 of 24

Reviewed findings Leaks linear increase vs. exponential

Increase not in customer's best interests, must prevent going exponential

All non-plastic services will be replaced when main is replaced or retired "Tie overs"

2/8

MM quick update

2/16

Mike- his report

2/18

Publish DOT comparison

ween - Ordine Attorner Dalto - Mar Engineering of French - NiScarce Atomyrounds - For most is most Cutal -for - Brockton facilities the princing vote of replacement - operational reality. realist reliability acceleration DIE cas (xeyspon) alventy has

- base rule ease is ~ \$10M increase - then plus to put 100K in appoint in 14450 immediately behind - Disource driving to veduce debit to Corre went to 1,2 in 5 yrs Hearing that nationwide aug =1 - Colhodic protection not practicle is only option

- system doesn't have 50-60 ps 64 - Otherships of at what point is curve over you no longer a product operator of 192.465 requirent is not being med - generally replacing facilities @ rate = today - Historical plant being veolaced is to 15/Atimodral is being replaced is to Due - Convider theme that cell U.S. gold infrastructure is dated of dograding Dan met of pipeline salety head @ DTE to they asked why isn't everyone caming in it this previous - winder looks a bigger probler since frost one force gas to inigrate to sewers, but the - They try to deal of all leaks prior to have out 15% of workford offer neager but now have hired then back teplacent groundendra even a year

/c1 Pan 200 VI 18/04ha chand challe X-4 Gradono 122201 NCHERLAS C,77110 CONTINUED OF 20/1/2-1 41407

Bay State Gas Company D.T.E. 05-27 RR-AG-20 Attachment 20(b) Page 4 of 36

Their plan is 920M ratebase increase DIE Salety Stat diacussions, informal region got cited vecently under 465 when house exploded for Educe to monitor corrobin Enstar Bertshire Keyspan they rout us to addit New England of nation DET data for comparison will look bad us nation of good us howard -DTE start was in agreent regard lock increase & need to start sounting step adjusting t in NIL E always in but very mireo house but @ BSG -DTE safety has request B56 get matinal cent data & croves that show in line

A

- load growth in Brockton is drivi- then to operate of close to design pressures

- Look @ KPL Kusan for BS service, got in trouble a few years ago
10 years ago big explonions

- Commission is opposed to frequent

- Den feels they get independent audit
3 times a welk of DTE monitoring
their crews & DTE monitors
performer process against BGS 04M
15tudewoods

- Dan very consortable of OdM manual

3 Corp Philosophies @ MiSource

- Bay State & Doublen Himbis Od M manual is strictly regits to meet code,

- Columbia puts everything in odd , training spirit of way.

. / /

- Dong Casey new land for Program -Dan't he sittle to call Steve B - Have a frest monthly operate two weeks Counit to 3 tates report ) weeks on email level bullkts - on-going - next steps - talk to Doney about report every sweek - Neal to start date tracking tool ed to Starp all BSG litigation Fend US - Rate Case filing in April 2005. Sted - They are not up against a schedule but need to resolve this earlier rather than later - want product late Cotober to Early No

ek find -d by Oct towal report, Keep regulatory strates ap to avoid unwanted Durices ? Case Ca had an issue withis mM. - dealing of estimating premius 40,00 Keysan

MOM asked for copy of all not-sanding of the from Dan in new-thirstony by Sept 1 - Use a key code tot all plots don't D company Haul LaShoto tother UP himed Keplaneum I Invesument Model RIH" - current made is a desiration of pu BS model of prior to that the Maine CI model I'M is used for discressionary Caper it is not for deciding when funds should be spect just how to allocate it. - it tous last upalated last summer & Steve courts to falk about date needs -bubble churt time/threshold is adjusted each year based on available copital dollars

not on an look Bay State Gas Company

D.T.E. 05-27 RR-AG-20 Attachment 20(b) Page 10 of 36 Day Cuser Bartall G/17

- Keith D said no corres sponded

PITE

- 7 19 in process of pilling data together

sphaled document status up based on his comments

he said status report

a range of the solution of the

Bay State Gas Company D.T.E. 05-27 RR-AG-20 Attachment 20(b) Page 11 of 36

3 day see

Bay State Gas Company D.T.E. 05-27 RR-AG-20 Attachment 20(b) Bugt Talk Page 12 of 36 90/30/ey Colin Oldhon Neshille Doug Casey Ed Anderson -\$ Compo of historical data + Known changes prepared for each operation anter - best they A-Caund Conpure locations need to lo lo each district separately - Budgets are developed to the months prior Bulget Jul Construction April ~ Det Nov 9 menths - Engilles do \$ & Johnes - OCM does leaks of locals

10101 150 dayholes = 201 10102 leaks repair Main 1200 = 201 = # of repair's 10127 Where pipe comes and of group to

RR-AG-20 Attachment 20(b) Page 13 of 36 toadings will be

Bay State Gas Company

D.T.E. 05-27

RR-AG-20 Attachment 20(b) Page 14 of 36 Fra Dav - leaks and >50m, 65 649 -verify your opposted alatachy -dealer look predictions was to spend opout N - Out was id NOW

Bay State Gas Company

D.T.E. 05-27

open require um

П

- Main Reglacements are 95%

Bay State Gas Company D.T.E. 05-27 RR-AG-20 Attachment 20(b) Page 15 of 36

RR-AG-20 Attachment 20(b) Wha Page 16 of 36 Daw

D.T.E. 05-27

 $\mathcal{M}M$ Page 17 of 36 Attachment 20(b) D.T.E. 05-27 RR-AG-20 Bay State Gas Company